AM stereo and ATV, different firms have a proprietary interest in various contending systems. As with AM, there is a serviceable TV technology already available, reducing the pressure to adopt the new system. In addition, there was little perceived difference between the leading AM stereo systems, preventing the emergence of an obvious de facto standard; it remains to be seen whether a particular ATV system stands out in terms of cost quality or spectrum efficiency.

B. Advantages of Standardization

1. Economies of Scale. The principal advantages of establishing a single transmission standard for broadcast ATV arise from economies of scale. First, large scale production will reduce the price of ATV receivers. Lower price is obviously a direct benefit of consumers; it may also be necessary to promote public adoption of the new technology. Programming supply may be limited until receiver penetration is significant. Demand for ATV receivers is likely to be limited until prices fall. Both supply and demand must reach a critical mass in order for ATV service to succeed. If incompatible systems compete, none may reach the production levels necessary to take advantage of significant economies, and ATV may never attain its potential.

The same economies are applicable to studio and transmission equipment. Converting a television station to ATV initially could cost as much as five times as much as the

comparable NTSC equipment. Until these costs are reduced, many broadcasters will be discouraged from converting. Stations in smaller markets would be unable to make an investment of this magnitude and would be precluded from participating in ATV. Incomplete participation by local stations could delay adoption of ATV by the national broadcast networks.

Perhaps the most important economy relates to programming. With a single transmission standard, every programmer will be able to reach the widest possible audience, and every viewer will have the widest selection of programming. Distributing the cost over a large number of viewers allows production of high quality programming without imposing prohibitive advertising rates or subscriber fees. A single broadcast standard could also advance the conversion of programming from whatever production standard is employed, increasing the availability of conversion facilities, and lowering the cost.

Finally, although it is not a traditional economy of scale, a single transmission standard can lead to significant spectrum efficiencies. The use of a varying standards requiring different degrees of protection may make it difficult to allot channels and service areas on an efficient basis. Moreover, are transmission method, the system proposed by Zenith, depends upon special signal processing techniques, including synchronization of signals, to achieve interference-free operations among stations that are separated

by only a fraction of the distance now required.[20] Since electromagnetic spectrum may be the most valuable factor of production in broadcast television, these efficiencies are particularly important.6[21]

Although the Working Party does not address the issue of standardization for media other than terrestrial broadcast, it notes that these economies of scale would be magnified if other media were to adopt the broadcast transmission standard or a closely compatible standard.

2. **Reducing Risk/Overcoming Inertia.** The risks involved in the introduction of ATV in the absence of an established transmission standard suggest a significant possibility for stalemate of the kind that has plagued AM stereo. The need for significant coordination among firms, the magnitude of the investment involved and the limited consumer demand for immediate adoption of the new technology all contribute to the potential for inertia.

The television industry involves the interaction of numerous suppliers of complementary products. Broadcasters, program producers and manufacturers of receivers and other equipment are organized into separate firms. There is no

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20/ Proposal for Zenith Spectrum Compatible ATV System at 9 (Sept. 1, 1988).

21/ By designating and assigning television channels, the FCC will necessarily establish important parameters on ATV transmission; therefore government cannot completely avoid participation in the standardization process.

significant vertical integration of these activities and at each horizontal level there is substantial competition. Despite this fragmentation of the industry, each firm's production must be compatible with the others in order to deliver programming to the viewer. Production and recording equipment, transmission media and receivers must all be compatible.

The success of broadcasting requires the ability to reach a large audience. The ability to finance high-quality programming and to appeal to advertisers depends upon the virtually universal penetration of broadcast television service. If the market is balkanized by incompatible technical standards, the economic foundation of the service is undermined. Therefore, a firm considering entry into ATV cannot merely select the "best" transmission system, it must attempt to select the system that others will adopt. The consequences of being stranded with an incompatible technology can be ruinous.

Viewers face a similar problem. They are more likely to prefer a particular ATV system because of the programming available with that system than because of its inherent technical advantages. Selection of an "incorrect" receiver would limit the programming available. Moreover, the absence of standards creates a constant risk of obsolescence for expensive TV receivers. Multiport or open architecture receivers mitigate this risk to some extent, but create problems of their own, including additional expense and

complication, the potential creation of imperfections, and the sacrifice of many of the benefits of economies of scale.

The risk to a firm (and perhaps to a viewer) who selects the "wrong" system is magnified by the amount of expense involved in converting to ATV. Current estimates for the cost of converting a television station range from $10-$40 million.[22/] The cost of retooling for an equipment manufacturer could be much greater. Even if these costs continue to be reduced by technological advancements and economies of scale, they will remain significant.

At the same time, the availability of a serviceable alternative system (NTSC) with an installed base of capital equipment and programming among both producers and consumers reduces the incentives to convert before the uncertainty concerning standards is resolved. There is little benefit, and significant risk, to being the first adopter of a new system.

Under these circumstances a de facto standard is unlikely to emerge in the absence of a government-supported

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22/ A de facto ATV transmission standard may be more of a possibility in nonbroadcast media. Because spectrum availability is not a limiting factor, introduction of nonbroadcast ATV in this country (e.g., via VCRs) does not depend on Commission allocations and assignment actions. Nor need it await broadcast plant conversions, for example, and immediate access to a mass audience is not a critical consideration. If such a head start resulted in a de facto nonbroadcast transmission standard, terrestrial broadcasting could be at a disadvantage indefinitely. Thus, it is important that adoption of a terrestrial ATV broadcast standard not be unnecessarily delayed.

standard. No single firm has enough market power to be confident of its ability to create a "bandwagon" effect and impose a standard on the others (as IBM effectively imposed the MS-DOS standard on the personal computer industry). Antitrust laws restrict the ability of firms to agree among themselves on a single system. The fact that different firms have proprietary interests in the contending systems makes such an agreement even more difficult.

It is likely that most participants in the television industry would adopt "wait and see" attitudes about ATV, leading to inertia and a very slow adoption of the new technology. If testing of the proposed transmission systems reveals that one is substantially and obviously superior to the others, a de facto standard might yet emerge without government intervention. Even in that case, however, one or more firms with a proprietary interest in some competing technology might seek to block a pure market-based solution. Government intervention (through adoption of a consensus standard) will assure that no small minority will be able to exercise "veto" power when the industry as a whole has a strong interest in achieving standardization.

Alternatively, the proponent of a particular system might attempt to start a bandwagon effect by the use of promotional pricing or side payments to influential early adopters, leading to the adoption of an inefficient de facto system. An early declaration that the Commission's evaluation and selection process is intended to result in the designation

of a single transmission standard will go a long way toward discouraging this kind of strategic behavior.

C. Disadvantages of Standardization

1. Selection of Sub-Optimal Standard. The most serious problem that can arise from standardization is that the "wrong" standard will be chosen, a special danger if the standard is chosen prematurely. A television transmission standard could be considered sub-optimal if it provides insufficient quality of pictures and sound, or is subject to excessive interference, or is uneconomical to implement or to operate because of incompatibility, expense or inadequate service areas.

All human activity is subject to error. The special problem of standardization is that the error will become entrenched and difficult to correct. However, the risk of an incorrect standard must be weighed against the advantages of standardization. These advantages are particularly compelling when <u>any</u> standard, even a sub-optimal standard, is preferable to the stalemate that will result in the absence of standardization. This was the case in AM stereo, and as in AM stereo, the issue may have less to do with qualitative differences between standards then the difficulty of agreeing on a single standard.

It is important to remember that the problem is inherent in standardization. It exists whether the standard is chosen by the "marketplace" or with government

intervention. When participants in the market have incomplete information about each other's preferences, they may fail to move toward the optimal result. Intense consumer demand can lead to the adoption of an available standard, despite its inefficiency. Firms can artificially stimulate demand through promotional pricing or other strategic behavior intended to achieve a foothold and induce others to follow. Because the pioneers of a new technology can reap large rewards, the incentive to attempt a "bandwagon" is very strong. Leaving the selection of standards to the marketplace does not guarantee a solution that maximizes consumer welfare.[23/]

Nor is a marketplace standard necessarily more flexible than standard set with government intervention. Standards become entrenched through widespread investment in skills, software or equipment. The classic case is the standard typewriter keyboard, which won acceptance in the free market and persists despite its inefficiency.[24/] In contrast, government-mandated standards that did not achieve this entrenched status were successfully abandoned, despite the initial official endorsement (e.g., CBS color standard, Magnavox AM stereo standard).

23/ S.M. Besen and G. Saloner, Compatibility Standards and the Market for Telecommunications Services (Rand, Feb. 1988) (reviewing literature on market failures in standardization).

24/ See David, Clio and the Economics of QWERTY, 75 American Economic Review 332 (1985).

2. **Inhibiting Technological Development.** Perhaps the most common mistake in standardization is the premature selection of a standard. The proper time to select a standard depends upon specific information about the state of the art and the prospects for its development. If important problems remain unsolved, standardization may be premature unless there is an overwhelming consumer demand. On the other hand, if available standards perform adequately and future developments are largely in the nature of refinements, it would be advisable to specify a standard immediately, unless demand were especially low.[25/] This is an issue that arose in setting the original black and white television standard, and again when color was introduced.

In 1939, the Television Committee of the Radio Manufacturers Association (RMA) asked the Commission to approve a technical transmission standard consisting of a 441-line picture and a field frequency of 60 Hz interlaced. The Commission was reluctant to do so, however, while television technology continued to develop rapidly.

> It is inescapable that th[e] commercial activity inspired and then reinforced by the existence of Commission standards would cause an abatement of research. To a greater or less extent the art would be frozen at that point. Even more important, investment in receivers which, by reason of technical advances when ultimately introduced, may

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25/ The selection process should afford some degree of preference for standards that can be most easily upgraded to incorporate new anticipated developments and improve performance.

become obsolete in a relatively short time.[26/]

The Commission was even forced to rescind a policy allowing limited commercialization on television broadcasts out of concern that a de facto standard would prematurely emerge.[27/]

The initial selection of the CBS "field-sequential" color television system by the FCC[28/] is considered to be an example of a standardization decision that resulted in an incorrect choice, probably because the decision was premature. The only other color system available, designed by RCA, was not yet fully developed. Its quality was still poor and the equipment, including home receivers, was bulky and complex. The CBS system provided better performance, but was incompatible with existing black and white receivers. With the prospects uncertain for perfecting RCA or another compatible system, and the installed base of black and white sets growing, the Commission was under pressure to make an early decision. The longer it waited to endorse the CBS standard, the more sets would require retrofitting or abandonment. At some point, it might have become impossible to introduce color television at all.

26/ Report, Docket No. 5806 (released Feb. 29, 1940).

27/ FCC Order No. 65, FCC Mimeograph No. 39922 (March 25, 1940).

28/ Color Television Issues, 41 F.C.C. 1 (1950).

In any event, the incompatibility problem slowed popular acceptance of the new color technology. CBS stations could not be received by the bulk of their audience during the part of the day that they broadcast in color. The Korean War restricted the manufacture of color sets, and CBS suspended its color broadcasts. By the end of the war, RCA had made significant improvements in its compatible system, and the FCC, at the urging of the NTSC, replaced the CBS standard with the RCA standard.

Concerns about premature standardization remain valid today. However, in order to achieve the considerable benefits of standardization, a choice must be made at some point, inevitably limiting the options for future development. Selection of the CBS color standard may have been premature, but the RCA standard has served for more than 35 years and both were government-mandated standards.

The Working Party believes it would be premature for the Commission to endorse a particular ATV transmission standard at this time. Such a selection can be made only after evaluating the actual performance of proposed transmission standards, assessing the technological problems that remain unresolved and the progress being made toward a solution, and the potential for later improvements within the framework of particular standards. The procedures discussed in Part IV, below, are intended to accommodate these concerns.

3. **Reducing Consumer Choice.** Another effect of standardization is to reduce the availability of alternate or competing systems. This is especially significant when the market consists of heterogeneous consumers with different preferences for a product. For example, consumers interested in finely detailed imagery or precise color reproduction, as for medical, military or engineering and design applications might not be satisfied with a system designed for general entertainment programming. However, such specialized users make up distinct market segments and need not be precluded from using alternative ATV standards.[29/] They are out of the network of users whose activities require standardization. Most television viewers have basically similar requirements and will benefit more from standardization than they will suffer from the limitation of choice.

A more significant consideration is the effect that the choice of a terrestrial broadcast standard would have on other distribution media. For example, cable system operators might have different signal propagation requirements than terrestrial broadcasters or a specialized concern for encoding. Cable may also seek to provide a superior signal quality to distinguish its product in the market.

29/ These markets are smaller and more integrated and can be more easily organized around discrete, alternative standards for their particular activities. The cost of their doing so is likely to be less than the cost of constraining the remainder of consumers by the requirements of a few.

A terrestrial broadcast standard would not necessarily preclude cable operators from employing a different ATV system. Nevertheless, any standards used by the two media should account for the large amount of broadcast programming that is retransmitted on cable, and the obvious advantages of compatibility or interoperability. But the problems that would occur in the absence of such a compromise are not an argument against standardization. The absence of standardization would be no better, either increasing the amount of incompatibility as multiple systems persisted, or enabling one of the media ultimately to impose its system on the other. Rather, these considerations suggest that cable and terrestrial broadcasters ought to select systems with an appropriate degree of compatibility.

IV. Standard-Setting Procedure

As discussed above, deciding whether an area should be standardized is separate from determining whether a particular standard is a good one. Having determined that ATV transmission would benefit from a single standard, we must establish a process that will choose the best standard.

The advantages of standardization can be obtained whether the standard is set by the marketplace or through cooperative action with or without government intervention.30/

30/ The government has already decided to intervene to (footnote cont'd)

Similarly, the risk of selecting an incorrect or premature standard is not inherently greater with a private or public process. The procedure must be fitted to the particular circumstances.

Two factors appear to be essential to avoid the selection of a premature or sub-optimal standard: first, sufficient technical data and other information to make an informed decision; and second, consensus among the participants in the market. The historical examples show that this is best accomplished when standards are initially developed by a panel representing all segments of the industry, and the panel's recommendations are adopted by the FCC.

A. Technical and Factual Basis

A proposed standard must be evaluated for both attributes and performance. Each proposed system may have a somewhat different collection of attributes, such as picture resolution, sound quality, spectrum requirements, resistance to interference, and compatibility with existing equipment. Users must weigh the importance of each of these attributes and choose the best combination for the intended use. Some

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(footnote cont'd)

establish fundamental parameters for ATV standardization. The FCC necessarily must set channel size and distribution. It also has tentatively decided to require all ATV systems to protect service to NTSC receivers. Tentative Decision and Further Notice of Inquire, Docket No. 87-268, 3 F.C.C. Rcd. 6520, ____ (¶ 4)(1988).

attributes may be essential, such as compatibility proved to be for color television. The unavailability of an acceptable system with attributes that are regarded as essential indicates that standardization is premature.

Whatever the nominal attributes of a proposed standard, it must be thoroughly tested for actual performance. The CBS standard for color television was selected, in part, because at that time the RCA standard exhibited performance problems with color reproduction, susceptibility to interference, and other factors. Only after RCA demonstrated improved performance, did the FCC select its standard to replace CBS. Some of the proposed ATV "systems" now under consideration are still no more than designs on paper or computer simulations. Their ability to perform as projected is unproven. The Advanced Television Test Center is now preparing to conduct the tests necessary to resolve this issue. Although these tests will not be completed for at least two more years, the results will greatly facilitate standard selection. The committee that developed the original NTSC standard in 1941 completed its work in only a few months, but its deliberations were based on extensive research sponsored by the RMA during 1936-38. Fundamental data of this kind is absolutely essential to a rational choice of a transmission standard. The Test Center's research should also produce valuable information about the state of the ATV art and the pace of its development in order to determine if selection of a standard is premature.

B. Achieving Industry Consensus

The use of an industrywide panel to develop consensus standards is consistent with the practice of the American National Standards Institute (ANSI), and its international counterpart, the International Organization for Standardization. ANSI commission an ad hoc committee or accredits an existing organization to formulate standards in a given area. Technical subcommittees collect information and prepare drafts for the full committee. A completed proposal is then offered for public comment. The technical subcommittees respond to the comments and prepare a revised draft, repeating the process until the standards committee s satisfied. The proposed standard is then submitted to ANSI for review and approval.31/

The most successful efforts at establishing standards in the communications field have been along this model, beginning with the NTSC (National Television Systems Committee) that set the basic television transmission standard still in use today. The first NTSC, organized under the auspices of the RMA, consisted of representatives of a wide range of industry interests. Many members of the Committee and its panels had hands-on experience in technical fields and

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31/ Carlton and Klamer, The Need for Coordination Among Firms, with Special Reference to Network Industries, 50 U. Chi.L.Rev. 446, 449 n.14 (1983). [cite primary source?]

were directly involved in evaluating proposals and formulating a standard.[32/]

A similar process was used in establishing consensus standards for stereo television.[33/] [cellular telephone?] and the second color TV standard. All have been successfully adopted. DBSA also recommended a standard for DBS operations from two standards approved by its standards committee, but the FCC declined to endorse one. It isn't clear what effect this has had on DBS service, which has been delayed by other factors.

By contrast, less successful standardization efforts did not employ this procedure. The first color TV standard was established by the FCC on the basis of months of formal adversary hearings with the contending systems presenting often conflicting testimony and cross-examination. This cumbersome procedure proved less effective in analyzing and comparing systems than the informal exchange among engineers and other participants in the NTSC and BTSC. The adversary process was less open to compromise and more likely to reflect proprietary interests than broader market forces.

In the AM stereo proceeding, the industry organized the National AM Stereophonic Radio Committee (NAMSRC), but is

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32/ Cite Fink.

33/ Use of Subcarrier Frequencies in the Aural Baseband of Television Transmitters, 55 RR 2d 1642; 47 Fed. Reg. 18100 1984). See also Besen & Johnson, supra, 61-71.

activities were limited to testing various proposed systems and reporting the results. NAMSRC did not make any recommendations concerning the system. Its function was therefore more like the ATV Test Center than the NTSC or BTSC. Moreover, several of the system proponents declined to cooperate with the NAMSRC testing program, further limiting its impact. Despite this lack of consensus, the Commission unsuccessfully attempted to designate the Magnavox system as the standard. The FCC was forced to back down in the face of the resulting opposition from the broadcast industry.[34/]

34/ 47 Fed. Reg. at 13154.

V. Conclusion.

The Working Party believes that it is essential that the Commission adopt a single terrestrial broadcast standard as soon as possible after sufficient testing of proponent systems has been completed, whether or not that testing process results in industry consensus. The Commission clearly has the necessary legal authority, and it should continue to make clear its intention to act decisively at the appropriate time. Economies of scale engendered by a single standard will lower the costs and heighten the efficiency of ATV implementation, and the impetus provided by government action will help overcome industry and consumer inertia. These and other advantages of government-adopted standard are particularly compelling in this instance because prompt introduction of ATV terrestrial broadcasting is necessary to ensure technological competitiveness with nonbroadcast media which are not subject to spectrum constraints.

Attachment 4:

PROPRIETARY STANDARDS IN ADVANCED TELEVISION

It is likely that all of the proposed Advanced Television systems incorporate some proprietary technology and intellectual property in the form of patents and/or trade secrets. At least some of the proponents may be unwilling to contribute this intellectual property to the public domain. Moreover, it seems likely that the U.S. public interest would be better served by widespread licensing of ATV technology to multiple TV camera, transmitter and receiver manufacturers, than by tightly restricted licensing. However, the Commission is without authority to require "compulsory licensing" or to otherwise regulate the licensing and royalty practices associated with patents. Consequently, at the same time the proponents are deciding on their strategies for licensing their technology, the Commission should be deciding on a strategy for dealing with ATV proprietary technology. It may be possible, for example, for the Commission to consider patent licensing offers as a decisional input when reaching a decision on an ATV system.

Proprietary Standards Are Common In High-Tech Products, and Licensing of Proprietary Technology Is Also Common

In high-tech product markets, it is common for *de facto* standards to incorporate proprietary technology. Nintendo video games, Postscript printer

fonts and page description language, Ethernet local area networks and 80286/80386 microprocessors are all examples of products that have become standards, yet all are based on patents or trade secrets rather than being part of the public domain.

In a competitive marketplace, owners of proprietary technology typically decide on a licensing strategy that maximizes their benefits. They may decide to adopt a strategy of widespread licensing in order to make their product into a *de facto* standard. Or they may decide to limit licensing to only a few other manufacturers. Or they may decide to grant no licenses.

Nintendo has licensed perhaps twenty other companies to manufacture and sell video game cartridges using Nintendo's proprietary interface, but only Nintendo manufactures the base unit. Atari Games filed a $100 million antitrust lawsuit against Nintendo in December 1988.

Adobe Systems, Inc., which controls the page description language and proprietary font family called Postscript, licenses software developers and computer printer manufacturers to incorporate Postscript technology, but the license fees are said to be very high.

Xerox, Digital Equipment Corp. and Intel Corp., which developed the technology and own the patents for Ethernet local area data networks, were willing to grant licenses to use this technology to anyone for a small fee. Some elements of Ethernet technology may now be in the public domain.

Intel licenses multiple manufacturing sources for the 80286 microprocessor, but has declined to license second sources for its next-generation 80386 microprocessor.

The Polaroid family of film and cameras is recognized as the *de facto* standard for instant photography, yet only Polaroid manufactures these products. In a patent infringement case won by Polaroid, Kodak was forced out of the instant photography market.

While companies have been able to develop non-infringing clones of the IBM XT and AT computers, there are neither clones nor second sources of the Apple Macintosh computer.

In the land mobile communications area, Motorola owns a proprietary communications protocol that controls the assignment of radio channels to users who share a "trunked" radio system. Because of Motorola's general dominance of the land mobile radio market, this protocol has become a *de facto* standard. Motorola has declined to license other manufacturers to use this protocol. This was an issue in the FCC's land mobile trunking protocol proceeding, where the Commission declined to adopt a compatibility standard. While some comments supported a mandatory compatibility standard, others opposed it.[1]

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[1]For example, APCO said: "APCO wants no part of penalizing an existing equipment developer by forcing the company to surrender its patents to benefit other companies who have made no contribution to the development process." Comments of Associated Public-Safety Communications Officers in Docket No. 88-441, October 17, 1988, at p. 31.

Consequently, these example show that the normal working of the marketplace might result in widespread patent licensing, or it might result in restrictive licensing, or it might result in no licensing at all.

It is normally the case in any technology that no single entity holds all of the relevant patents. In such cases, rights holders generally are able to work out cross-licensing terms and other private agreements among themselves for the licensing of technology to one another. This is likely to be the case with ATV as well. It is not certain, however, whether these cross-licensing agreements give ATV proponents the rights to sub-license the patents of others. For example, if the Zenith system were to be based in part on AT&T patents, and if the Commission chose the Zenith system as the ATV standard, then it is not clear whether other TV set manufacturers could deal with Zenith to obtain all the necessary patent licenses, or would have to deal with AT&T as well.

FCC Authority to Regulate Proprietary Standards is Limited

FCC authority in the area of patents and patent licensing is very limited. It has acted to protect rightsholders (for example, in the area of syndicated exclusivity), but has not acted to deprive rightsholders of their rights. The former FCC Chairman stated that protection of intellectual property rights has been one of the four basic principles guiding his chairmanship of the agency.

Remarks of Dennis R. Patrick before the National Association of Broadcasters, May 2, 1989, at 6.

Patents are legal monopolies, and the patentee may choose whether or not to license others to use its patents (Dawson Chemical Co. v. Rohm & Haas Co., 448 U.S. 176, 202 (1980); SCM Corp. v. Xerox Corp., 645 F. 2d 1195, 1204 (2nd Cir., 1981), cert. denied, 455 US 1016 (1982)) and may charge the royalty amount that the leverage of the patent monopoly permits (Brulotte v. Thys Co., 379 US 29, 33 (1964)). Moreover, the 100th Congress enacted an amendment to the patent laws providing that no patent owner may be found to have misused its patent by refusing to license or use it.[2]

Under the Constitution, intellectual property rights (like other forms of property) may not be taken by the government without just compensation. With respect to patents, the only government agencies that have the authority to compel the licensing of patents are the Nuclear Regulatory Commission and the Environmental Protection Agency, and in each agency the power is narrowly limited. In the case of the NRC, the licensing power is limited to special nuclear material, and the statutory authority includes a compensation scheme.[3] The EPA, under the Clean Air Act,[4] has limited authority to effect compulsory licensing of patented technology needed to ensure compliance with pollution

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[2]Patent and Trademark Office Authorization Act, Pub. L. No. 100-703, Sec. 201, amending 35 U.S.C. Sec. 271(2).
[3]42 U.S.C. 2183.
[4]42 U.S.C. 7608.

standards. This would be done by EPA asking the Attorney General to seek a court order compelling the licensing of a patent; the final decision and determination of compensation is left to the court.

U.S. patent policies are based on the idea that broad and potentially lucrative protection for intellectual property will stimulate invention and innovation. The underlying public policy of promoting technological progress is enshrined not only in the Patent Clause of the Constitution and in federal patent and trade secret law, but also in Section 7(a) of the Communications Act. But there is nothing in the Communications Act that gives the FCC any power over patent rights, authority to impose a compulsory licensing scheme for patents, or the power to appropriate patented technology.

The Commission itself has recognized that it has very limited, if any, authority in the patent area.[5] In discussing the possibility of an RCA patent monopoly in the development of color television, the Commission refused to eliminate RCA's patented system from consideration, nor did it suggest that it could compel licensing of the system. It merely noted that remedies were available under the antitrust laws, or the Commission could seek additional authority

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[5]In a April 21, 1988 memorandum from FCC Deputy Chief Engineer Bruce Franca to Irwin Dorros, Chairman of the Systems Subcommittee of the Advisory Committee on Advanced Television, an FCC patent policy is cited. The policy appears to be that the Commission will take "appropriate action" in cases where patent ownership obstructs the development of telecommunications services. However, it does not appear that this "policy" has ever been implemented, nor has the Commission's authority in this area ever been affirmed in court.